Shark Tooth Caches in Wayne County, Ohio

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In the course of compiling a supplement to Morgan and Rodabaugh's *Bibliography of Ohio Archaeology,* I happened across a small volume entitled *Geology and Archaeology of Wayne County, Ohio,* by Joe H. Todd, published in 1910 as part of a county history and also as a separate pamphlet. In it, Todd illustrates part of his artifact collection, including the fossil shark teeth reproduced in the accompanying photograph.

According to Todd, these teeth were found in several places in Wayne County. "The large tooth, associated with one on the card from South Carolina, was found in the muck of Killbuck bottoms, below the fair grounds. The others were found when draining a muck swamp in a preglacial gorge down the head of the Cincinnati incline on section thirty-two, Milton township. They were not the only teeth recovered, for the family kept some, and I had two stolen from me. In addition, I have a number of shark's teeth, but of another species, recovered from the Newman's creek swamp near Orrville. How sharks got here is only surmise, but imagination whispers to me that they were stranded in the fissures of the hills, from the warm sea that surrounded the head of the island when the land rose and the sea gave place to a carboniferous forest. Since writing the above, I had a row of the small teeth found in Newman's creek swamp added to the plate."

Unless Todd was the victim of a hoax, these fossil shark teeth probably represent Middle Woodland caches of "raw material" traded from the southeast. Occasional stray finds of such unworked fossil shark teeth have been reported in the literature (Converse 1967, Goodman 1973), and worked shark teeth have been found in a number of Hopewell burial mounds. Shetrone and Greenman (1931) report 105 shark teeth from the Mound City group, 30 from the Harness mound, 13 from the Hopewell mound group, and 3 from Seip mound, all in Ross County. The "Kellenberger Shark Tooth" reported by Goodman (1973) was associated with the High Banks works, also in Ross County, so that Converse's 1967 find from Marion County remains the only other known occurrence outside of Ross County.

The precise provenience of these fossil shark teeth is difficult to establish. Squier and Davis, who originally described and illustrated such teeth from Ohio mounds (presumably from Mound City), stated that "We are of course ignorant of the locality from which they were obtained. It is a well known fact, however, that they are abundant in the tertiary formations of the Lower Mississippi." Squier and Davis further note that some "have holes drilled through them near the base; others are notched, as if designed to form spear or arrow-heads. Raleigh observed some used as such among the Indians of Carolina." More recent workers vary in their opinion. Moorehead (1922) believes that they "are probably from the phosphate beds of North and South Carolina." Prufer (1964) states "From the Gulf region of Florida the Hopewellians obtained shark teeth . . . Fossil shark teeth may have been obtained from the same area. On the other hand, very large numbers of Miocene shark teeth occur in the Calvert Formation of Maryland." Struever and Houart (1972), on a map indicating "potential source areas for the raw materials distributed through the Hopewell Interaction Sphere," indicate only the east and west coasts of Florida for shark teeth.

The large fossil Miocene white shark, a precursor of the living "man-eater" white shark of the Atlantic, is *Carcharodon megalodon* (Charlesworth). Its teeth have been found in Tertiary deposits all along the Gulf Coast and northward along the Atlantic Coast from Florida to New Jersey. But, as Eastman (1904) notes, "The teeth of *Carcharodon,* which are such a conspicuous feature in the Eocene of South Carolina and other states, appear to diminish in abundance proceeding northward, and ascending in the geological series. They are extremely rare in the Maryland Eocene, and are not at all common in the Miocene."

Less common species represented in Squier and Davis' original drawings include either *Carcharodon angustidens* (= *C. auriculatus* Agassiz) or *Otodus obliquus* Agassiz, probably the former; both species are uncommon in the Miocene of Maryland. Additional species recognizable from Todd's illustration include *Galeocerdo aduncus* Agassiz, *Oxyrhina desorii* Agassiz, *Odontaspis elegans* (Agassiz), and *Carcharias laevissima* (Cope).

Moorehead (1922) also illustrates a drilled specimen of *Oxyrhina desorri*, from Hopewell Mound 18. All of these species, however, can be found throughout the Eocene and Miocene "phosphate beds" of the Gulf and Atlantic coasts, though they do not appear to be common in the Maryland Tertiary, and there is some question whether *C. angustidens* actually occurs there.

Thus, it seems unlikely that the Hopewell fossil shark teeth derive from a point as far north as Maryland. Nor, considering the nearer availability of such exotic raw materials as chlorite, mica, steatite, crystal quartz, and alligator jaws, does it seem likely that travel to Florida was necessary. Moorehead is probably closest to the truth when he suggests the Carolinas as the source area.

Including the Wayne County finds, a total of 164 shark teeth have been found in Ohio, nearly two thirds of the total, however, coming from the Mound City Group alone. This does not seem to be a particularly large quantity of material and might conceivably have been collected in one or two trips to the southeast. It does not in itself seem compelling evidence for the far-flung, intricate trading network envisioned by some workers as the "Hopewellian Interaction Sphere." In fact, it seems a moot question whether such shark teeth were obtained by trade or by actual collecting on the part of the Ohio Hopewellian people. In either case, these unusual fossils seem to be limited in occurrence to Hopewellian components, so that the Wayne County specimens can probably be assigned a Middle Woodland provenience.

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Fig. 1 (Murphy) Sharks' Teeth, found in the Muck Swamps of Wayne County. About two-thirds natural size.